



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

# SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE  
OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION  
FOR THE ADVANCEMENT OF SCIENCE.

FRIDAY, JUNE 23, 1905.

## PLANT PHYSIOLOGY—PRESENT PROBLEMS.\*

CONTENTS.	
<i>Plant Physiology:</i> PROFESSOR BENJAMIN M. DUGGAR .....	937
<i>Scientific Books:</i> —	
<i>Shattuck on the Bahama Islands:</i> W. M. D.	953
<i>Societies and Academies:</i> —	
<i>The Philosophical Society of Washington:</i> CHARLES K. WEAD. <i>The Science Club of the University of Wisconsin:</i> F. W. WOLL. <i>The San-Francisco Biological Club:</i> PRO- FESSOR W. J. V. OSTERHOUT. <i>The Psycho- logical Club of Cornell University</i> .....	955
<i>Discussion and Correspondence:</i> —	
<i>An Automatic Catalogue of Scientific Lit- erature:</i> G. N. COLLINS. ‘ <i>Life and Chem- istry:</i> ’ PROFESSOR M. A. BRANNON.....	958
<i>Special Articles:</i> —	
<i>The Ideas and Terms of Modern Philosoph- ical Anatomy:</i> PROFESSOR HENRY F. OS- BORN. <i>Some Ph.D. Statistics:</i> PROFESSOR RUDOLF TOMBO, JR.....	959
<i>Botanical Notes:</i> —	
<i>Michigan Forestry; A New Book on Ecol- ogy; Original Descriptions of Species; North American Rusts:</i> PROFESSOR CHARLES E. BESSEY.....	963
<i>Museography:</i> C. R. E.....	964
<i>The University of Wisconsin</i> .....	964
<i>The Museum of the Brooklyn Institute</i> .....	965
<i>Award of the Barnard Medal</i> .....	965
<i>The American Anthropological Association</i> ..	966
<i>Scientific Notes and News</i> .....	966
<i>University and Educational News</i> .....	963

MSS. intended for publication and books, etc., intended  
for review should be sent to the Editor of SCIENCE, Garri-  
son-on-Hudson, N. Y.

To the very year one century has elapsed since Theodore de Saussure published his remarkable investigations relating to the nutrition of plants and to the influences upon plants of certain well-known physical forces. Although preceded by the publications of Duhamel, Hales, Ingenhouss and Senebier, as well as by those in a somewhat different line, by Konrad Sprengel and others, we may look upon the work of de Saussure as a wonderful production for his time and as strikingly indicative of the status of plant physiological problems a century ago. His paper may be regarded in a sense as the original charter or constitution of plant physiology. Fortunately, it is assigned to an eminent and experienced botanical historian to recite the amendments which mark the wonderful growth of this historic instrument. There remains, therefore, the task of suggesting some directions of future growth.

No distinction need here be made between those problems which are readily seen to involve the closest work in such other sciences as physics and chemistry and those which do not show a relationship so close. There is certainly much in physiology which must be based upon physics and chemistry, but when dealing with the causes of the activities of living organisms, it is in relatively few cases that explanations may ever be offered in terms of

\* Address read before Section C, Plant Physiology, International Congress of Arts and Sciences, St. Louis, September 22, 1904.